



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,715	03/27/2006	Nobuhiro Hayashi	4439	4988
7590 10/09/2008				
Floyd B. Carothers				
CAROTHERS AND CAROTHERS				
Suite 200				
445 Fort Pitt Blvd.				
Pittsburgh, PA 15219				
EXAMINER				
SMITH, FRANCIS P				
ART UNIT		PAPER NUMBER		
1792				
MAIL DATE		DELIVERY MODE		
10/09/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,715

Applicant(s)

HAYASHI ET AL.

Examiner

Francis P. Smith

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 8-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 8-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the telephone conversation on March 26, 2008.

Response to Arguments

2. Applicant's arguments filed July 9, 2008 have been fully considered but they are not persuasive. Applicants argue that the applied art does not teach charging the base film by irradiation of electron beams prior to the deposition and applying a bias voltage to the deposition layer after the deposition. The Examiner respectfully disagrees. The applied Makoto reference teaches the irradiation of electron beams prior to deposition that occurs in the 2nd field of the processing system while the deposition occurs in the 3rd field of said system [0016]. Furthermore, Makoto then discloses that the polymeric film is kept in tight contact with the cooling roll, but does not explicitly state "applying a bias voltage". Okuda teaches forming a film on a substrate and then generating a potential difference (e.g. applying a bias voltage) such that the film substrate closely contacts the cooling drum (col. 3, lines 55-63). With regard to the combination of references, to establish the prima facie case of obviousness and the motivation to combine references comes from "three sources: the nature of the problem to be solved, the teaching of the prior art and the **knowledge of persons of ordinary skill in the**

art", as per *In re Rouffet*, 149 F3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998)

In response to applicants' arguments regarding the deposition speed, Makoto/Okuda teach substantially the same processing steps as the instant application, and therefore, the deposition speed of the prior art would have considerably the same characteristics as that of the claimed invention. Additionally, there is no comparative data on the record to indicate otherwise. Furthermore, it is noted that the arguments regarding the deposition speed are more specific than the currently pending claims.

Applicants' correction to the specification is acknowledged.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makoto et al. (JP 2002-358633) in view of Okuda et al. (US 5,258,074).

Regarding claims 1 and 4, Makoto teaches a method of manufacturing magnetic recording media. Specifically, the process for manufacturing the magnetic recording medium consists of a processing step of electrifying a polymer film in the traveling state (e.g. an insulating material base film is continuously fed out). The polymer film is kept in tight contact with the cooling roll by electrification of the traveling polymer film (i.e. cooled in close contact with a cooling roller) (see abstract). Furthermore, a metal is

evaporated onto said insulating material base film to deposit a metal film thereon [0029]. An electron gun is installed in the upper wall of the vacuum chamber to pass along the center line of the cooling roller and to cross the direction of the high polymer film as it is conveyed (i.e. charging the insulating material base film) [0021]. Makoto does not teach applying a voltage after the deposition of the metal film.

Okuda teaches an evaporation apparatus featuring a voltage applying and current measurement means. Specifically after a metal film is deposited on a substrate film, a voltage is applied to the metal membrane-deposited film substrate, which is applied between the auxiliary roller (i.e. roller 7a) and cooling roller to ensure that the metal membrane adheres to the film substrate with great strength (as per claim 4) (col. 3, lines 47-63; col. 4, lines 4-32; see fig. 1). Therefore, it would have been obvious to one skilled in the art at the time of the invention to apply a voltage after depositing a metal film in Makoto's method as taught by Okuda in order to enhance the cooling efficiency of the substrate by promoting adherence to the drum and to ensure that the metal membrane binds to the film substrate with a favorable strength.

As per claims 2 and 3, Makoto teaches an electron gun such that the electron beam can be scanned to the length direction of a cooling roller, the cross direction of the substrate film in which it runs (e.g. charging said insulating material base with charged particles while being scanned in the width direction of the insulating material base film as it is in contact with said cooling roller) ([0021], see drawing 1).

Regarding claim 5, Makoto teaches using a measuring device consisting of a piezoelectric sensing element 26, which is capable of controlling the applying voltage as

to place the surface potential within a predetermined range ([0017], see drawing 1).

For claim 7, Makoto teaches removing the electricity from the insulating material base film after the deposition of the metal film [0033].

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Makoto et al. (JP 2002-358633) and Okuda et al. (US 5,258,074), as applied to claim 1 above, and further in view of Asai et al. (US 5,489,488).

Makoto, as modified by Okuda, does not disclose forming a mask pattern on the surface of the insulating material base film before charging said base.

Asai teaches of manufacturing a soft magnetic film whereby a substrate is coated with a resin mask having a predetermined core pattern CP. The resin mask was used for the purpose of forming a magnetic multilayer film in the opening of said mask (col. 7, lines 10-19). Therefore, it would have been obvious to one skilled in the art at the time of the invention to utilize Asai's resin mask in Makoto/Okuda's method in order to form a magnetic film of a predetermined pattern on a soft film substrate.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis P. Smith whose telephone number is (571) 270-3717. The examiner can normally be reached on Monday through Thursday 7:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mikhail Kornakov can be reached on (571) 272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. P. S./
Examiner, Art Unit 1792
/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792